



State of Utah

Department of Natural Resources

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas & Mining

JOHN R. BAZA
Division Director

JON M. HUNTSMAN, JR.
Governor

GARY R. HERBERT
Lieutenant Governor

July 12, 2005

CERTIFIED RETURN RECEIPT
7002 0510 0003 8603 3394

Mert Hamilton
Rocanville Stone
P.O. Box 35
Delta, Utah 84624

Subject: Conditional Approval of Large Mining Operations, Tejon Quarries,
M/027/087, Millard County, Utah

Dear Mr. Hamilton:

The Notice of Intention to Commence Large Mining Operations (NOI) for the Tejon Quarries is approved. However, prior to mining beyond the already approved 9.91 acres of disturbance, the Division requires an additional \$27,100 surety and Reclamation Contract. **Please submit the required amount within 30 days of receipt of this letter.** Contact Beth Ericksen at 801-538-5318 to obtain all the necessary forms and instructions.

Please be advised that **you are not authorized to create any additional mining related surface disturbance until you have received written final approval from this Division, as well as from the BLM and any other agency involved with the permitting process.**

The Division is currently holding a total of \$31,700 in two separate Certificates of Deposit and a "Transitional Reclamation Contract", which was approved on July 1, 2004, for 9.91 acres of disturbance. The \$31,700 was based on an average formula for mining related reclamation costs per acre and not on the actual information in the mine plan. The Division has determined the reclamation costs for 20 acres of proposed life of mine disturbance to be \$108,900 (estimate enclosed). You have proposed a cumulative surety payment schedule (schedule enclosed) that will treat each increment of mining as its own mining and reclamation unit. You are currently required to post \$27,100 to bring the current surety to \$58,800. This amount will fully cover the existing 9.91 acres of disturbance plus the additional 2005 proposed disturbance of 1.59 acres. The schedule requires the yearly posting of additional surety prior to any new surface disturbance until the total \$108,900 has been posted. The schedule requires the posting of surety on or before March 31 of each year through the year 2009.

Mert Hamilton
Page 2 of 2
M/027/087
July 12, 2005

During the public comment period the Utah State Paleontologist recommended further evaluation of the invertebrate fossil resource. A subsequent site visit and resulting report by the State Paleontologist consider this site a high quality significant type locality of the Weeks Trilobites and is of historic significance to paleontologists. The fossils at this site are rare soft-bodied fossils. The following recommendations were made by the State Paleontologist:

- Quarry operations may continue.
- The illegal sale of fossils (not by the operator) from the site must be stopped.
- Significant fossil bearing slabs should be culled for scientific study and potential exhibit.
- Access to the quarry area should be maintained for scientists as well as for amateur paleontologists.
- When reclaimed, the high walls should be left exposed for the benefit of future researches. Backfilling the high walls will destroy a critical scientific and historic resource.

The Division highly recommends you follow these recommendations and any BLM requirements regarding the paleontological resources. The Division will forward any information regarding the sale of fossils from these sites to the BLM.

Thank you for your cooperation and patience in completing this permitting process. If you have any questions regarding this letter, please contact me at (801) 538-5291 or Tom Munson at 538-5325.

Sincerely,



Susan M. White
Mining Program Coordinator
Minerals Regulatory Program

SMW:tm:jb
Enclosures:

Surety estimate
Surety Payment Schedule
State Paleontologist's recommendation
Executive Summary
Overall Location Map
Maps 1-3 showing Tejon 1-4

cc : Sherry Hirst, BLM, Fillmore FO (UTU-078279 & UTU-079464-01) w/enclosures
Dave Ryzak, Consultant
O:\M027-Millard\M0270087-tejon\final\Tentative-apv.doc

| | | | | | | |
|--|-----------------|--------------|------------------------------|-----------|-------------------|--|
| RECLAMATION SURETY ESTIMATE | | | | | | |
| Mert Hamilton | | | | | | |
| Tejon Quarries | | | | | | |
| DOGM file Number M/027/087 | | | filename M027-087.xls | | | |
| Prepared by Utah State Division of Oil, Gas & Mining | | | Millard County | | | |
| | | | | | | |
| Note: actual unit costs may vary according to site conditions | | | | | | |
| | | | last unit cost update | | 03/01/05 | |
| -Amount of disturbed area which will receive reclamation treatments = | | | | | 19.2 acres | |
| -Estimated total disturbed area for this mine = | | | | | 20 acres | |
| <u>Activity</u> | <u>Quantity</u> | <u>Units</u> | <u>\$/unit</u> | <u>\$</u> | <u>Note</u> | |
| Safety gates, signs, etc (mnts & installation) | 3 | Sum | 250 | 750 | (1) | |
| Demolition of buildings & facilities | 0 cf | | 0.27 | 0 | (2) | |
| Debris & equipment removal - trucking | 2 trips | | 64 | 128 | (3) | |
| Debris & equipment removal - dump fees | 40 ton | | 70 | 2800 | (4) | |
| Debris & equipment removal - loading trucks w/FEL | 4 hours | | 210 | 840 | (5) | |
| Demolition & debris removal - general labor | 20 hours | | 27 | 540 | (6) | |
| Regrading facilities areas (2ft depth) | 0 acres | | 710 | 0 | (7) | |
| Regrading waste dump slopes | 17750 CY | | 0.70 | 12425 | (8) | |
| Ripping waste dump tops | 3.3 acre | | 286 | 944 | (9) | |
| Ripping stockpile & compacted areas | 3.5 acre | | 286 | 1001 | (9) | |
| Ripping recontoured areas prior to seeding | 12.4 acre | | 286 | 3546 | | |
| Ripping pit floors | 0 acre | | 286 | 0 | (9) | |
| Ripping pit access roads (2ft depth) | 0.3 acre | | 710 | 213 | (9) | |
| Creating safety berms or barriers around highwalls | 3340 LF | | 0.25 | 835 | (10) | |
| Ripping access roads- dozer | 0 acre | | 286 | 0 | (9) | |
| Regrading access roads - dozer | 0 acre | | 286 | 0 | (9) | |
| Sidecast mtl replacement of steep slopes - trackhoe | 0 LF | | 1.45 | 0 | (11) | |
| Surface drainage restoration or construction | 0 LF | | 0.25 | 0 | (10) | |
| Topsoil replacement - dozer | 17390 CY | | 0.68 | 11825 | (12) | |
| Topsoil replacement - scraper | 0 CY | | 1.39 | 0 | (13) | |
| Topsoil replacement- truck and FE loader | 7460 CY | | 3.02 | 22529 | (14) | |
| Mulching (2 ton/acre alfalfa/straw) | 0 acre | | 400 | 0 | (00) | |
| Fertilizing (100 lb/acre diammonium phosphate) | 19.2 acre | | 100 | 1920 | (00) | |
| Composted manure (10 ton/acre) | 0 acre | | 350 | 0 | (00) | |
| Broadcast seeding | 19.2 acre | | 280 | 5376 | (00) | |
| Drill Seeding | 0 acre | | 240 | 0 | | |
| Hydroseeding | 0 acre | | 930 | 0 | | |
| General site cleanup & trash removal | 10 acre | | 75 | 750 | (00) | |
| Equipment mobilization | 3 equip | | 2000 | 6000 | (00) | |
| Reclamation supervision -10% of reclamation estimate | | | | 7242 | (15) | |
| | Subtotal | | | 79665 | | |
| 10% Contingency | | | | 7966 | | |
| | Subtotal | | | 87631 | | |
| Escalate for 5 years at 4.44% per year | | | | 21260 | | |
| | Total | | | 108891 | | |
| Rounded surety amount in year 2010 \$ | | | | 108900 | | |
| Average cost per disturbed acre = | | | | 5445 | | |

Rocanville Corporation proposes the following Surety payment schedule:

| Year | Year | Acreage to be developed | Surety Required | Surety Proposed | Total Surety to be posted | When Due |
|------|------|----------------------------|--------------------|--------------------|------------------------------|---------------|
| 1 | 2005 | existing (9.91) | \$49,400 | \$49,400 | \$ 49,400 | Upon approval |
| 1 | 2005 | 1.59 acres | \$ 9,376 | \$ 9,400 | \$ 58,800 | Upon approval |
| 2 | 2006 | 2.04 acres | \$12,030 | \$12,100 | \$ 70,900 | 3/31/2006 |
| 3 | 2007 | 2.48 acres | \$14,625 | \$14,600 | \$ 85,500 | 3/31/2007 |
| 4 | 2008 | 1.95 acres | \$11,499 | \$11,500 | \$ 97,000 | 3/31/2008 |
| 5 | 2009 | 2.03 acres | \$11,970 | \$11,900 | \$108,900 | 3/31/2009 |

**ROCANVILLE STONE
NORTH CANYON
TEJON QUARRIES
MILLARD COUNTY, UTAH**

Recommendations

**James I. Kirkland Ph. D.
State Paleontologist**

**Utah Geological Survey
PO Box 146100
Salt Lake City, Utah 84044**

June 13, 2005

Introduction

North Canyon was formally known as Weeks Canyon and is the type locality of the late Middle Cambrian Weeks Formation. Rocanville Stone operates the Tejon Quarries located about 40 miles west of Delta, Utah in Sections 29 and 30, T18S, R13W. Alden Hamblin of A.H. HAMBLIN PALEONTOLOGICAL CONSULTING in Cedar City, Utah recently (May 5, 2005) completed a paleontological assessment of the Tejon Quarries. As the State Paleontologist for Utah I am in full concurrence with Hamblin's recommendations.

The quarries span the type section of the Weeks Formation and totally engulf Charles Dolittle Walcott's (1850-1927) Weeks Trilobite localities (Walcott, 1908a-c). Thus in addition to being a highly significant type locality, the site is of historic significance.

Walcott was one of the premier paleontologist of the 19th century and the first part of the 20th. Charles Walcott was the Director of the US Geological Survey from 1894 to 1907 and was Secretary General of the Smithsonian Institution from 1907 to 1927. In 1909 he discovered the Middle Cambrian Burgess Shale fauna, which is the most famous and significant invertebrate fossil site ever discovered because of the preservation of soft-bodied (unskeletonized) animals from the beginning of the fossil record. This site is now protected within a National Park in Canada. A newly discovered site of similar age in China is now the center of a National Park and has an entire exhibit hall devoted to it at the Beijing Museum of Natural History. Walcott's impact on the science of Geology and Paleontology globally cannot be overstated. Walcott's picture of his 1903 expedition into western Utah graces the cover of the new geological map of this part of Utah (Hintze and Davis, 2003).

I made a visit to the site on June 1st, with Tom Munson of the Utah Oil, Gas, and Mining, Martha Hayden, Paleontological Tech., UGS, Carl Ege, Outreach Program, UGS, and Andrew Milner, St. George City Paleontologist and an expert on Cambrian fossils. This visit was precipitated by an inquiry from UOG&M and as I had long heard of the significance of the site I wanted to receive assurances that scientists would be able to continue visiting the locality. Additionally, only a few days earlier I learned that a remarkable soft-body fossil was appearing on the black market from this site thanks to a verbal report to me by Dr. Bill Hood, Grand Junction, CO at the Rocky Mountain Section Geological Society of America meetings on May 22-24, 2005.

Observations

In Delta, Utah, I recognized some truly extraordinary fossils from the site on display from Weeks Formation. These were large (4-6 in.) examples of *Beckwithia typa*, is one of the rarest and most aesthetic organisms to be found in the Weeks Formation, which is an extremely rare trilobite-eating organism from the Class Merostomata and Order Aglaspida. Looking at a truly extraordinary pair that would make a spectacular museum exhibit specimen, I learned that a specimen like this would probably fetch a thousand dollars conservatively. Enquires, I

made later with the Utah Museum of Natural History indicated that they did not have a single complete specimen of this taxon, although they are dedicated to included a major exhibit on fossils the west desert in the new paleontology hall they are designing.

The *Beckwithia* specimens apparently are only the tip of the iceberg relative to the extraordinary fossils being found at the site. A conversation I had with Glade Gunther of Brigham City (one of the most respected amateur paleontologists in Utah) about the site confirmed many of my observations.

A great many unique soft-bodied fossils and other unique specimens are leaving the site on a continuous basis. Rockville Stone is only interested in the building stone, but many of the workers are high grading fossils from the site. Casual collectors and fossil dealers visiting the site are offered these specimens for sale. As the quarry workers mark fossils on the building stone for future culling, it turns out that some of the most unscrupulous dealers come in after the quarry workers have left and do their own culling. Any search of Ebay or Google on Weeks Trilobites will show many extraordinary specimens for sale (some unique and many undescribed). The prices these specimens fetch preclude their ever being researched by professional paleontologists.

The Weeks Formation in North Canyon preserves a large number of scientifically significant fossil specimens. Alden Hamblin notes 48 known species of trilobites and at least 3 species of aglaspid (Peters, 2003; Beebe, 1990). As opposed to being a detriment to the fossil resource, the quarrying operations provide an opportunity to uncover these important fossils. However, the loss of what appears to be the most significant material onto the black market needs to be stopped and the materials need to come into public hands.

This is not to say that amateur paleontologist should be prevented from visiting the site, people come to the Utah's west desert from all over the world to collect trilobites. Utah's most dedicated amateur paleontologists are well known to scientists as one of the most significant sources of rare and new species. They get these important specimens to scientists and into our museums. The development of the new Utah Museum of Natural History provides a wonderful opportunity to showcase these spectacular fossils and working with amateur paleontology groups like Utah Friends of Paleontology may help provide opportunities to secure exhibit materials for these new exhibits.

Additionally the process of splitting the Weeks Formation in making flagstone provides a wonderful opportunity to discover spectacular exhibit specimens that will benefit all of our citizens. It is important that paleontologists have an opportunity to cull significant fossils from these quarry operations. However, all the fossils from the Weeks Formation do not have the same significance as some are common and well known. Thus only those fossils that are rare, soft bodied (always rare), or could be used as potential exhibit specimens should be set aside. In point of fact if everything was set aside, there would be little left for building stone.

Recommendations

1. Quarry operations continue.
2. The illegal sale of fossils from the site should be stopped.
3. Significant fossil bearing slabs should be culled for scientific study and potential exhibit.
4. Access to the quarry area should be maintained for scientist as well as for amateur paleontologists.
5. When reclaimed, the bedrock and high wall should be left exposed for the benefit of future researches. Backfilling the high walls will essentially destroy a critical scientific and historic resource.

References

- Beebe, M.A., 1990, Trilobite faunas and depositional environments of the Weeks Formation (Cambrian), Utah: Unpublished PH.D. dissertation, University of Kansas, Lawrence, 102 p.
- Hintze, L.E. and Davis, F.D. 2003, Geological Map of the Tule Valley 30' X 60' Quadrangle and parts of the Ely, Fish Springs, and Kern Mountains 30' X 60' Quadrangles, Northwest Millard County, Utah; Utah Geological Survey Map 186.
- Peters, S. E., 2003, Evenness, richness and the Cambrian-Paleozoic faunal transition in North America: An assemblage-level perspective (Utah): The University of Chicago, Ph.D. dissertation, 279 p. (Chapter 2, Paleontology and Taphonomy of the upper Weeks Formation (Cambrian, Upper Marjuman, Cedaria Zone) of Western Utah)
- Walcott, C.D., 1908a, Nomenclature of some Cambrian Cordilleran formations, Cambrian geology and paleontology I: Smithsonian Miscellaneous Collections, v. 53, n. 1, p. 1-12.
- Walcott, C.D., 1908b, Cambrian brachiopoda, Cambrian geology and paleontology I: Smithsonian Miscellaneous Collections, v. 53, n. 3, p. 53-137.
- Walcott, C.D., 1908c, Cambrian sections of the Cordilleran area, Cambrian geology and paleontology I: Smithsonian Miscellaneous Collections, v. 53, n. 5, p. 167-230.

EXECUTIVE SUMMARY

Prepared (Date)

| | |
|--------------------------------------|--|
| Mine Name: Tejon Quarries | I.D. Number: M/027/087 |
| Operator: Rocanville Stone | County: Millard |
| Address: | New/Existing: Status changing from SMO to LMO |
| | Mineral Ownership: BLM |
| | Surface Ownership: BLM |
| Telephone: 435-864-5242 | Lease No.(s): UTU-079464-01 & UTU-078279 |
| Contact Person: Mert Hamilton | Permit Term: Life of Mine |
| Telephone: 435-864-5242 | |

Life of Mine: Permitted for 20 Acres of Disturbance.

Legal Description: Tejon #1 quarry S1/2 of NW ¼, Section 29, T18S, R13W, Tejon #2 S ½ of NE ¼, Section 30, Ne ¼ of SE ¼ Section 30, T18S, R13W, Tejon #3 quarry S ½ of NE ¼, Section 30, W ½ of SE ¼, Section 30, T18S, R13W, Tejon #4 Quarry W1/2 of SE ¼, Section 30, T18S, R13W

Mineral(s) to be Mined: Building Stone.

Mining Methods: Front End Loader and Hand Splitting and Palletizing.

Acres to be Disturbed: 20 Acres total.

Present Land Use: Wildlife and Grazing.

Postmining Land Use: Wildlife and Grazing.

Variances from Reclamation Standards (Rule R647) Granted: None.

Soils and Geology:

Soil Description: Soils are up to ten feet deep in the drainages but very shallow to non-existent on the slopes. Chemical analyses show moderate to high—but not extreme—salt concentrations. Nitrate nitrogen and phosphorous levels are generally low with potassium concentrations being high. All of these are typical of many desert soils.

pH: 7.3 (average of five samples)

Special Handling Problems: None.

Geology Description: The Tejon Quarries are located in the Weeks Limestone of the Cambrian Age. The Weeks Formation is composed of laminated limestone. Weathered limestone is yellowish to reddish gray.

Hydrology:

Ground Water Description: No Groundwater developed within the vicinity of the mine. Groundwater may exist part of the year in the Alluvium of the adjacent drainage but has not been developed or tested.

Surface Water Description: The ephemeral drainage flows adjacent to the road and the mine. The watershed area flows from Amasa Valley and becomes the North Canyon drainage, but only flows in response to snow melts and thunder storms. The Quarries sit adjacent to the drainage and the palletized stone sits in the flood plain, but the drainage is so ephemeral that no impacts have been considered short of maintaining any fuels and greases for equipment in a secure non-polluting environment.

Water Monitoring Plan: None at this time since all runoff is ephemeral in nature and a surface control plan will be in place to control erosion.

Ecology:

Vegetation Type(s); Dominant Species: Dominant species include Utah juniper, bluebunch wheatgrass, black sage, Douglas rabbitbrush, and Nevada bluegrass.

Percent Surrounding Vegetative Cover: 60 percent.

Wildlife Concerns: None.

Surface Facilities: None.

Mining and Reclamation Plan Summary:

During Operations:

There are four Quarries(Tejon #1-4) that will be mined based on stone demand related to the color of rock, since each quarry has a different color of stone. This is an open pit operation. Drilling and blasting will be used when necessary to loosen the rock. Limestone will be mined from the highwall faces and floor of the open pits. An excavator will be used to remove stone from the highwall. An excavator or front end loader will be used to pick up and move stone

from the quarry floor to a work area where it will be spread out in thin layers away from the highwall face of the quarry. Unusable material will be placed on the waste dump, at most, 5.5 acres of total waste dumps in five years. Excavators, front end loaders, and/or dozers will be used in the operation. Palletized stone will be transported from the site on flatbed trucks. No ore (saleable stone) stockpiles, tailings facilities, and water storage or treatment ponds are planned for this operation. Net development on all four quarries will be at an average rate of two acres per year.

After Operations:

The quarry will be mined in benches with a maximum of 3 benches or 45 feet of highwall between catch benches. Highwalls are anticipated to have an overall slope of 75 degrees. The overall slope of the quarries will be 45 degrees. Plant growth material consists of subsoil, limestone fines, and some very small quantities of topsoil. Where brush has been cleared to build stone storage areas within each quarry, ridges of plant growth material have been cleared at the edges of the clearings. These ridges of plant growth material will be collected and placed in stockpiles. Overburden will be supplemented with fines from the waste dump to provide enough plant growth material to cover the area to be recovered to 12 inches deep. These areas will be seeded with a seed mix recommended by the Division.

Surety:

Amount: \$108,900 total with \$58,800 due initially and subsequent payments yearly until the bond is paid.

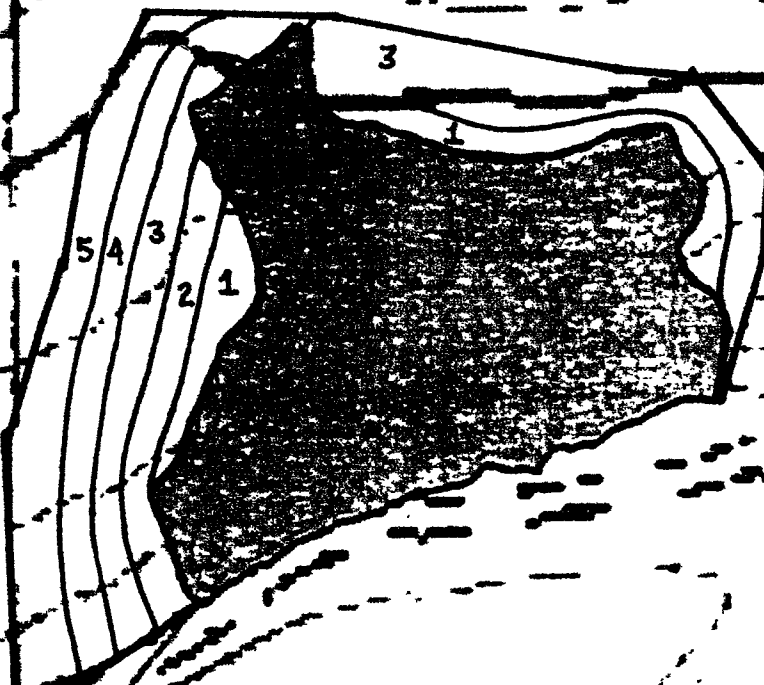
Form: CD

Renewable Term: yearly until the \$108,900 is paid

Tejon #1

4.67 acres

X 67



TEJON QUARRIES
ROCANVILLE STONE

Map 1 of 3
Proposed Development to
Schedule Reclamation
Surety Estimate $\frac{1}{2}$, NW $\frac{1}{4}$
1" = 200' SECTION 30
R 13 W T 18 S

X 6937

0069

Tejon #2
1.32 acres



TEJON QUARRIES
ROCANVILLE STONE

Map 2 of 3
Proposed Development to
Schedule Reclamation
Surety Estimate

1" = 200' R13W T18S

S 1/2, NE 1/4 SECTION 29

Tejon #3

.99 a/6



TEJON #3
S 1/2, NE 1/4
SECTION 30

TEJON #4
W 1/2, SE 1/4

TEJON QUARRIES SECTION 30
ROCANVILLE STONE

ALL 2
R13W,
T18S

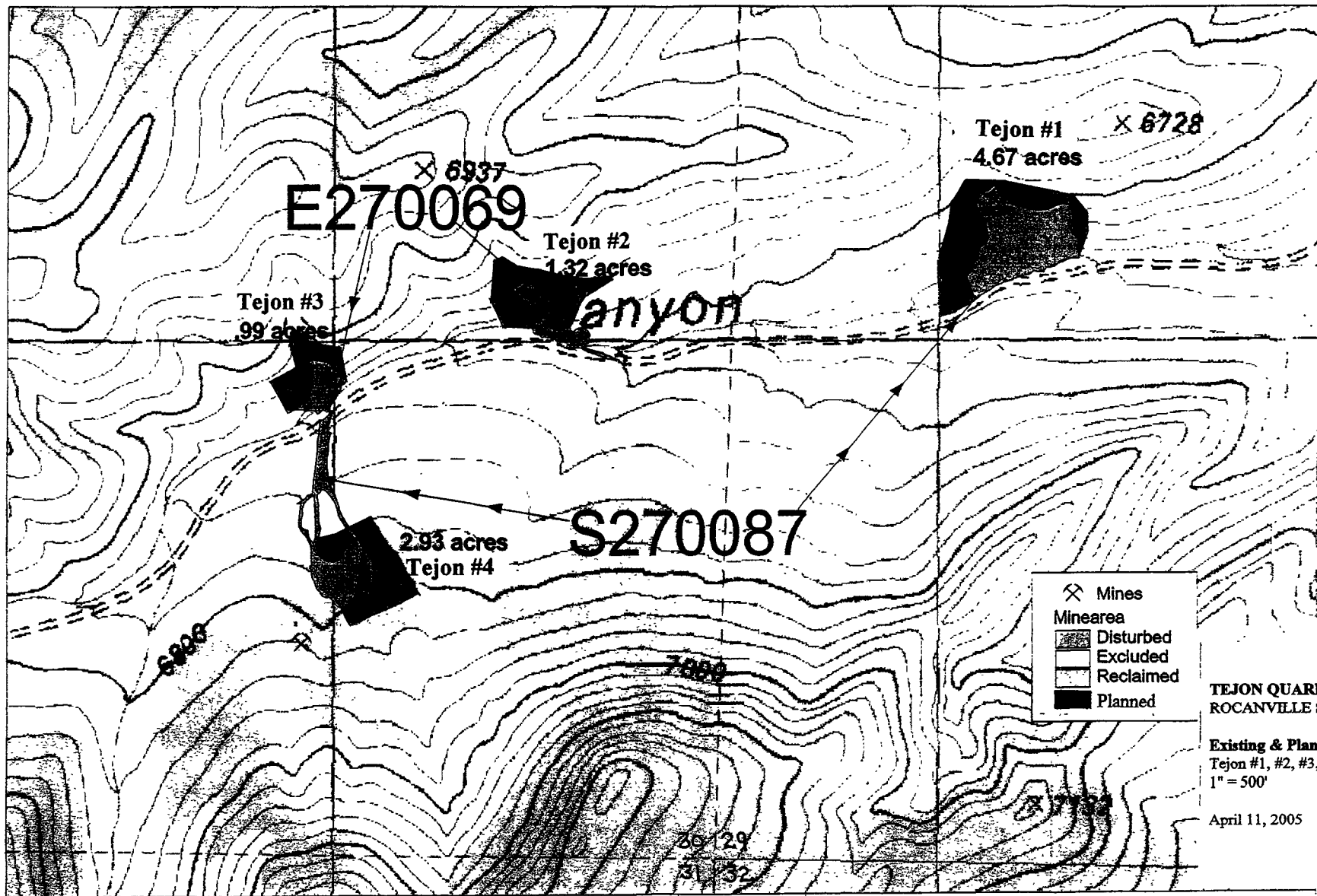
Map 3 of 3
Proposed Development to
Schedule Reclamation
Surety Estimate
1" = 200'

2.93 acres

Tejon #4



= 9.91 ac

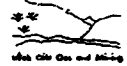


- ✕ Mines
- Minearea
- Disturbed
- Excluded
- Reclaimed
- Planned

TEJON QUARRIES
ROCANVILLE STONE

Existing & Planned Development
Tejon #1, #2, #3, #4 Quarries
1" = 500'

April 11, 2005



Dept. of Natural Resources
Division of Oil, Gas & Mining
Mineral Mines Program

500 0 500 Feet



Mine Number: S027/087 & E027/069
Mine Name: Tejon Quarries
Township 18 S Range 13 West Section 29 & 30